PROPOSED SYNOPSIS ON

A COMPARATIVE STUDY ON MANAGEMENT OF NATURAL, ORGANIC AND INORGANIC FARMING (WITH REFERENCE TO MAHARASHTRA)

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Introduction: History of Agriculture: Early farming techniques depended on local climate conditions, but most farmers would continue to plant on the same field year-after-year until the soils were exhausted of nutrients. This encouraged ingenuities such as crop rotation and intercropping (*Economywatch.com*). Intercropping is a technique in which a variety of crops are grown together, creating a microclimate that favors the survival of each plant, maximizes potential yields and maintains soil fertility (*Archaeology.about.com*). For example, Native Americans developed an intercropping technique over 5,000 years ago called the three sisters, where maize, beans, and squash were grown together (*Archaeology.about.com*). Maize consumes a lot of nitrogen, while beans supply nitrogen to the soil, and squash benefits from a shady, moist climate. Intercropping is one of many early discoveries in agriculture still being implemented today that promotes biodiversity, maintains soil composition, and fortifies plant health.

Techniques such as irrigation, intercropping, and crop rotation have progressively increased efficiency in agriculture. Over the last few centuries however, radical changes have been made in farming and many countries have made a shift toward conventional methods. Factors such as growing populations, economic instability, climate change, and pressures from companies to produce higher yields have contributed to this shift. However, adopting these conventional methods subjects farmers to the greed of industry, as their crops depend on a high input of energy, synthetic chemicals, and genetically modified organisms. And once committed to the conventional practices, farmers find themselves locked in a perpetual cycle of loans, subsidies, and debt.

Natural Farming (NF) was developed by Dr. Cho Han Kyu at the Janong Natural Farming Institute in South Korea. It was originally intended to change the chemical-based and harmful farming methods that were being practiced in South Korea.

Indian agriculture sector has come to be dominated by the model pushed through during the Green Revolution in the 1960s. While there are many aspects to the Green Revolution, one major factor was the move away from self-sufficiency, towards increased inputs into a piece of farmland through irrigation, pesticides, fertilizers, and hybrid seeds that could not consistently breed well from generation to generation. India is a country wherein the total agricultural land holdings is 60.8% constituting approximately 158 million hectares. The total area under natural farming is estimated to be around 1.08 million hectares in 2010, which is about 0.6% of the total agricultural area. The rest of the land is predominantly under chemical farming, which employs the usage of pesticides and fertilizers. This proposal discusses the importance of natural farming, which is an ideal approach for self sufficiency, healthy living and tackling climate change by avoiding the usage of toxic fertilizers. The techniques used in natural farming are totally eco-friendly and no external input is required to the farm land.

Natural Farming involves methods that require no cost input from the farmer's side in terms of pesticides, fertilizers or even irrigation. Natural methods are used to retain and improve soil health, control pests, and increase yields. A farmer will also be able to produce his own seed, and natural fertilizers are created using cow dung, cow urine and other materials. Natural Farming recognizes the abundance of nature and utilizes indigenous resources for production. Its basic philosophy is to maximize the inborn potential of a life form and its harmony with the environment by not interfering with their growth and development or forcing the crops to yield more than what they can. Natural Farmers believe that the best way to achieve top quality yield is to respect the nature of life. Natural Farming is also envisioned so as to contribute to the alleviation of poverty, disease and environmental destruction by providing an alternative means of livelihood and food production. As a farming methods that goes back to basics using materials from nature and without force or chemicals.

Natural Farming guarantees its farmers healthy and strong products needed to provide for their families and society. Natural farming respecting the natural cycle of life is more than a farming technique. It is a philosophy, a new economics and a way of life. Natural Farming (NF) has a concrete approach as to how best to practice farming while observing and respecting the laws of nature utilizing only what nature provides. NF has farming inputs that are proven to be very effective in the cultivation of crops. These inputs can increase yields better than the harmful commercial fertilizers and pesticides.

All the farmers selected for the study agreed that switching over to the new method from chemical agriculture paid good dividends. Savings on the cost of seeds, fertilizers and plant protection chemicals has been substantial. Almost all the farmers have stopped borrowing crop loans. Crop yields have been optimal with possibly no decline in future, because of continuous incorporation of organic residues and replenishment of soil fertility.

While, the country as a whole experienced an increase in yields and total production for certain crops such as wheat and rice after the implementation of these schemes, there were many problems associated with the model. It was not very sustainable or ecologically friendly.

The goal of conventional agriculture is to maximize the potential yield of crops. This is achieved through the application of synthetic chemicals, genetically modified organisms, and a number of other industrial products. In maintaining a conventional system, biodiversity, soil fertility, and ecosystems health are compromised (Huntley, Collins, and Swisher). Production of these crops is beneficial to nothing but food security and economy. Once established, a conventional farm requires constant maintenance but produces maximal yields.

Where conventional farming represents one extreme of agriculture, sustainable farming represents the other. "Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved." (Gomiero, Pimentel, and Paoletti 2011). Sustainable agriculture is a more holistic approach to farming than conventional in that it relies on ecosystem services and is typically much less detrimental to the surrounding landscape. Sustainable agriculture is a natural way to produce food and has a number of social, economic, and environmental benefits.

Review of Literature:

According to Mr. Palekar, one native cow is all one needs to take up this method of farming on thirty acres of land. Mr. Fukuoka mentions in his book "(pronounced mu in jp, wu in ch, meaning 'nothing' or 'without') Vol.3, Natural farming practical guide" (sorry only available in Japanese), "In the natural world plants can coexist and flourish together. However, in human eyes coexistence of plants appears as a conflict, therefore to grow one plant, the others become weeds, and to grow their crops, weeds need to be removed." "Natural farming requires much less labor and costs (than science based chemical and organic farming). and the ultimate goal of natural farming is absolutely no costs, no labor."

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"Gandhi believed in gram swaraj (or village self-governance)," says Save. "Central to his vision was complete self-reliance at the village level in all the basics needed for a healthy life. He had confidence in the strength of organic farming in this country. Similarly, as Vinoba Bhave (Indian teacher of nonviolence and human rights, 1895-1982) pointed out, industries merely transform 'raw materials' sourced from Nature. They empty one bag to fill another, but cannot create anew. Only Nature is truly creative and self-regenerating – through synergy with the fresh daily inflow of the sun's energy.

On 29th July, 2006, Bhaskar Save addressed a detailed 8 page Open Letter (along with six annexes) to M.S. Swaminathan, then chairman of the National Commission on Farmers. This was at a time of an unrelenting wave of farmer suicides in various parts of India, particularly Vidarbha and Andhra Pradesh, but also Punjab, the frontline state of India's 'green revolution', now turned black.

Kalpavruksha compels attention for its high yield, easily out-performing any modern farm using chemicals. This is readily visible at all times. The number of coconuts per tree is perhaps the highest in the country. A few of the palms yield over 400 coconuts each year, while the average is closer to 350. The crop of chikoo (sapota) – largely planted more than forty-five years ago – is similarly abundant, providing about 300 kg of delicious fruit per tree each year.

Pambansang Inisyatibo and Binhi LikasThe organic soil amendments described in this document have proved extremely useful for jumpstarting the soil rehabilitation process on farms

that are initiating the conversion to organic agriculture. The long term use of inorganic fertilizers results in a soil that is impoverished in terms of organic matter content, microbial activities and structure. The first years of organic cultivation are frequently characterized by lower yields and reduced farm income until the soil has been restored. This is a particularly serious concern on small-scale farms whose primary function is to provide for the nutritional needs of a family. Funds are not always available to supplement nutritional shortfalls engendered by short term yield decreases. It is therefore important to accelerate the restoration of the soil so as to render the conversion to organic agriculture feasible for small landowners by reducing the associated risk

Importance and Rational of the Research study:

Sustainable farming is an important concept in natural farming to maintain health of soil, crops and various living organisms. It also helps to decrease dependence on limited non-renewable resources such as petroleum based products and importation of organic materials. It helps lessen the farmer's financial burden with the use of homemade materials and making use of resources from the farm.

Organic farming refers to cultivation of plants and rearing of animals in natural ways making use of biological materials and avoiding synthetic substances to maintain soil fertility and ecological balance thereby minimizing pollution and wastage. It relies on ecologically balanced agricultural principles like crop rotation, green manure, organic waste, biological pest control, mineral and rock additives. Organic farming makes use of pesticides and fertilizers if they are considered natural and avoids the use of various petrochemical fertilizers and pesticides. Organic farming is beneficial in terms of better and nutritious food crop production free from any kind of toxic chemical residue, addressing the health hazards and adverse environmental consequences of synthetic agrochemicals at the same time. Organic farming is preferred as it battles pests and weeds in a non-toxic manner, involves less input costs for cultivation and preserves the ecological balance while promoting biological diversity and protection of the environment

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number of other industrial products. Production of these crops is beneficial to nothing but food security and economy. Once established, a conventional farm requires constant maintenance but produces maximal yields. Maintenance is made easy for farmers as conventional farming typically involves mono-cropping, but is also very expensive. In a conventional system farmers will designate entire fields to just one crop, which creates uniformity. A uniform crop is ideal because it reduces labor costs and makes harvesting easy, but it can also impact biodiversity and make crops susceptible to pathogens. Chemicals and genetically modified organisms make maintenance of conventional systems relatively simple for farmers, but require a constant input of energy and money. In a conventional system, farmers can apply pesticides and herbicides to crops at a much more efficient rate if they are made up of just one type of plant, but this has a number of unintended consequences. Since the goal of conventional agriculture is to maximize yields, environmental health and biodiversity are usually not preserved.

The need to involve to study on A COMPARATIVE STUDY ON MANAGEMENT OF NATURAL, ORGANIC AND INORGANIC FARMING (WITH REFERENCE TO MAHARASHTRA) is necessitated due to change in consumption pattern of people. in the light of this present research study will be undertaken, so for such an extensive research study has not been undertaken. However few studies available in the form of research paper, article etc. on one or two aspect of natural farming hence in view of this it felt necessary to the researcher to study covering wider area of natural, organic, and inorganic farming in Maharashtra. Therefore, the title of my research study ***"A COMPARATIVE STUDY ON MANAGEMENT OF NATURAL, ORGANIC AND INORGANIC FARMING (WITH REFERENCE TO MAHARASHTRA)"***

Objectives of the Study:-

1. To examine the present status and pattern, natural, organic, inorganic farming in Maharashtra.
2. To study the performance of natural, organic, inorganic farming in Maharashtra.
3. To explore socio-economic impact of natural farming on farmers in Maharashtra.
4. To analyses policy adopted by the government for the progress of natural farming.

Hypotheses of research study:-

1. **Null hypothesis:** There is no significant impact of natural farming on socio-economic condition of farmer.
2. **Null hypothesis:** Government had not played significant role in promoting the natural farming.
3. **Null hypothesis:** There is no significant use of management principles by farmers in developing natural, organic and inorganic farming.

Research Methodology:-

1. **Type of research design –** This is descriptive research design for conducting the research work for the above title.
2. **Source of data collection-**

   Primary data: for this research work primary data will be collected by visiting farmers in person scattered all over Maharashtra. At present there are 50 natural farmers (www.subhashpalekar.org) and 92 organic farmers as per the list of govt. of Maharashtra. (www.mahaorganic.com), whereas list of in organic farmers is not available due to big universe. In organic farmers will be selected in proportional to the natural and organic farmers in respective region.

Secondary data: To collect the information required for this study will be collected from various sources like books, journals, research paper, research article, reports, of government, reports of national and international agency news paper and extensive use of various related web sites and to collect necessary and required information will be collected though designing questionnaires, scheduler method, interview to make related inquires for research work.

3. **Research approach-** this is purely survey method will be used by researcher to collect necessary and first hand information the farmers.

4. **Universe or population of study-** To conduct this research work the researcher has defined the universe Maharashtra as whole.

5. **Sampling units-** farmers of natural, organic, inorganic farming are the units for this research work.

6. **Sample size-** At present total no of natural farmers and organic farmers in Maharashtra are as follows:

SR.NO	REGION	Natural farmers	Organic farmers	In organic farmers
1	Vidarbha	44	06	Universe is not defined
2	Marathwada	00	06	
3	West Maharashtra	06	80	
4	Konkan	00	00	
	total	50	92	

Source :(www.mahaorganic.com, www.subhashpalekar.org)

7. **Selection of sample:** At present there are 50 natural farmers and 92 organic farmers in all over Maharashtra. Census method will be used for the selection of natural and organic farmers. Due to big universe of inorganic farmers selection of inorganic farmer's proportionate sample with natural and organic farmers will be taken.

8. **Method of sampling-** in case of natural farmers and organic farmer's census method will be used where as in case of inorganic farmers convenient sampling method will used.

Limitation of the study:

1. This study is restricted to limited areas of Maharashtra.

2. This study is strictly limited to natural. Organic and inorganic farmers in Maharashtra.

3. There is limitation of natural farmers in Maharashtra.

4. By considering geographical areas, time and money for this research work some limitation may bind to come in the research work.

PROPOSED CHAPTER SCHEME OF RESEARCH STUDY

Chapter No.	Title of the Chapter
1	Introduction
2	Research Methodology
3	Review of Literature
4	Performance of Natural, organic and inorganic Farming.
5	Socio-Economic Impact and Government Policy of Natural, organic and inorganic farming.
6	Data Analysis and Interpretation
7	Findings, Conclusions and Suggestions

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